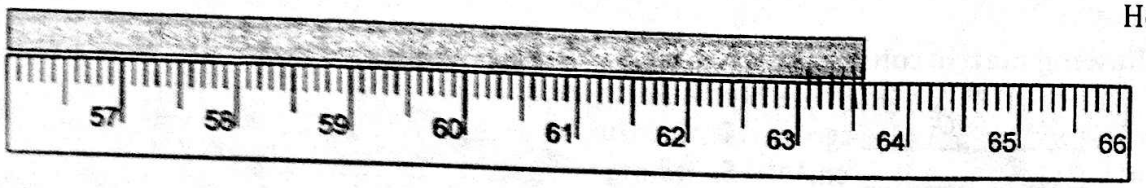
Physical Science
Name: _____

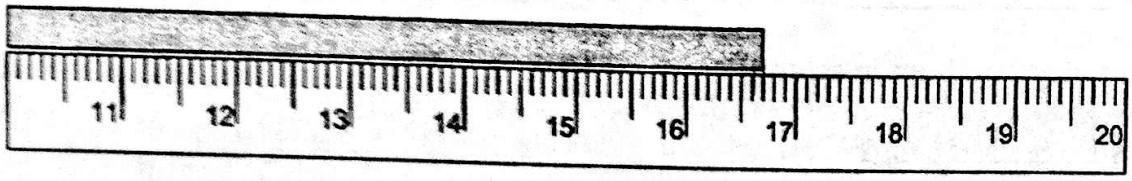
DSHS
Per____

# Taking measurements:

How many centimeters?



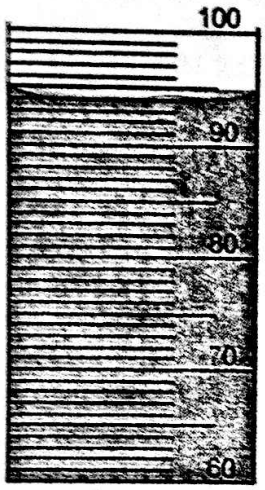

1. 63.60 cm




2. 16.70 cm

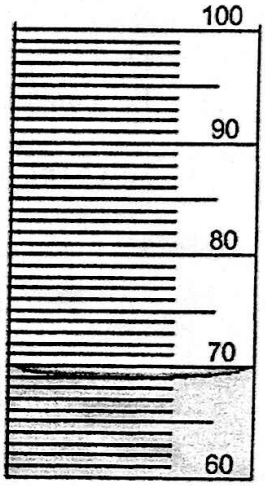
**What is the reading in milliliters for each graduated cylinder?**


3. 34.2 mL




4. 94.1 mL

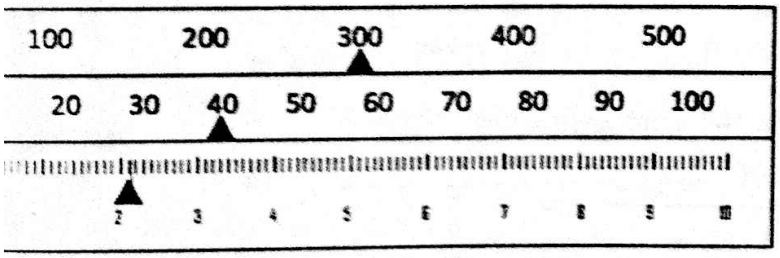

5. 4.05 mL



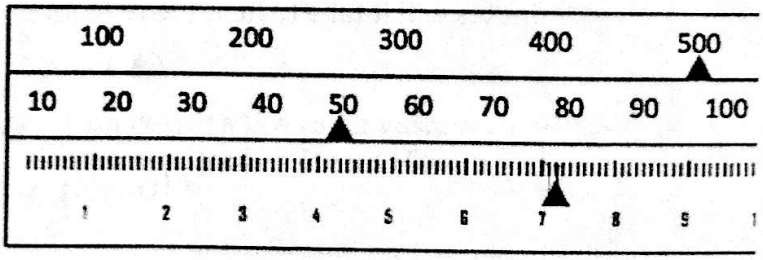

6. 69.5 mL

**Read the following triple beam scales and determine the masses. Triple Beam Balances measure in grams.**

7. 342.0 g




8. 557.19 g




9. Explain the difference between accuracy and precision:

ACCURACY IS HOW CLOSE TO AN ACTUAL VALUE A MEASUREMENT IS WHILE PRECISION HAS TO DO WITH HOW CLOSE MEASUREMENTS ARE TO ONE ANOTHER (THE REPEATABILITY OF A MEASUREMENT)

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# Systems of measurement & conversions:

10 x 10 x 10 x 10 x 10

**Make the following metric conversions:**

1. 6 kg = 6000 000 cg
2. 8 mL = 8 $cm^3$
3. 9.3 m = 930 cm
4. 200 cm = 2,000 mm
5. 45 mg = 0,045 g
6. 260 mL = 0,26 L

**Write the following numbers in scientific notation:**

7. 2003.09 $2.00309 \times 10^3$
8. 63.01 $6,301^2$
9. 0.00605 $6.05 \times 10^{-3}$
10. 0.00004 $4.0 \times 10^{-5}$

**Write the following numbers in standard or ordinary notation**

11. $3.01 \times 10^5$ 301000
12. $4.66 \times 10^{10}$ 46600000000
13. $6.70 \times 10^{-3}$ 0,00670
14. $9.51 \times 10^{-4}$ 0,000951

**Solve the following:**

15. If apples cost $3.99 per dozen, how much would seven apples cost?

$$7 \text{ apples} \frac{\$3.99}{12 \text{ apples}} =$$

16. How many seconds are in a 1.5 hour soccer match?

$$1.5 \text{ hr} \times \frac{60 \text{ min}}{1 \text{ hr}} \times \frac{60 \text{ s}}{1 \text{ min}} =$$

17. If a person weighs 125 lbs, 8 oz., how many kg does s/he weigh? [1 lb = 16 oz, 1 kg = 2.2 lbs]

$$125,5 \text{ lbs} \times \frac{1 \text{ kg}}{2,2 \text{ lbs}} = 57,0 \text{ kg}$$

18. A research assistant is heating a chemical reaction for 8.95 hours. How many minutes will it take to heat the reaction?

$$8,95 \text{ hrs} \times \frac{60 \text{ min}}{1 \text{ hr}} = 537 \text{ min}$$

19. How many miles will a person run during a 10 kilometer race?
[0.621 mi = 1.00 km]

$$10 \text{ km} \times \frac{0,621 \text{ mi}}{1 \text{ km}} = 6,21 \text{ mi}$$

20. A family pool holds 10,000 gallons of water. How many cubic meters is this?
[264.2 gal = 1 cubic meter]

$$10,000 \text{ gallons} \frac{1 \text{ m}^3}{264,2 \text{ gal}} = 37,85 \text{ m}^3$$